AMENDMENTS TO THE CLAIMS:

Please cancel Claims 3, 4, 8, 17, and 20 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1, 9, and 18 as follows:

1. (Currently Amended) A method of manufacturing an optical element, comprising the stages of:

machining a substrate;

removing a contamination from a surface of the substrate after the machining; and

removing a deterioration layer in the surface of the substrate after the machining,

wherein the contamination removing stage includes the steps of:

(a) immersing the substrate in acetone;

(b) taking out the substrate from the acetone and then wiping the surface thereof with a paper containing diamond powder;

(c) processing the wiped surface of the substrate with solvent; and

(d) processing the surface-processed substrate with UV/O_3.

2. (Previously Presented) A method according to claim 1, wherein the substrate is made of CaF_2 single crystal.

3. (Cancelled)

4. (Cancelled)

5. (Original) A method according to claim 1, wherein the deterioration layer removing stage includes a step of ultrasonic-washing the surface of the substrate with an aqueous wash solution.

6. (Original) A method according to claim 5, wherein in the ultrasonic washing step, ultrasonic washing with a wash solution containing a surface-active agent and ultrasonic washing with pure water are performed in succession.

7. (Original) A method according to claim 6, wherein the deterioration layer removing stage further includes a step of rinsing the substrate with pure water and a step of drying the rinsed substrate after the surface of the substrate is ultrasonic-washed with pure water.

8. (Cancelled)

9. (Currently Amended) A method according to claim [[8]] 1, wherein the solvent is ether.

10. (Original) A method according to claim 6, wherein the surface-active agent is an alkalescent surface-active agent.

11. (Previously Presented) A method according to claim 7, wherein the drying step is performed with warm air.

12. (Previously Presented) A method according to claim 1, wherein the machining stage includes a step of cutting the substrate from a CaF_2 single crystalline base substrate and polishing the surface of the cut substrate with a predetermined surface shape.

13. (Original) A method according to claim 12, wherein the machining stage includes a step of forming a protective film on the polished surface of the substrate, and the contamination removing stage is performed after the protective film is removed from the surface of the substrate.

14. (Original) A method according to claim 1, wherein the contamination is one of abrasive, oil content, and other foreign matter.

15. (Original) A method according to claim 1, wherein a surface roughness of the optical element is 0.5 to 0.55 nm by an examination with an RMS.

16. (Original) A method according to claim 1, wherein the optical element is one of a lens, a prism, a transparent plate, and a transparent rod.

17. (Cancelled)

18. (Withdrawn) An exposure apparatus comprising:

an optical system having an optical element manufactured by the manufacturing method according to any one of claims ~~1 to 17~~ 1, 2, 5 through 7, and 9 through 16, for illuminating a wafer with laser light having a wavelength of 200 nm or less.

19. (Withdrawn) A device manufacturing method comprising the stages of: exposing the wafer by the exposure apparatus according to claim 18; and developing the exposed wafer.

20. (Cancelled)